

ABSTRACT

THESIS: Geological Evaluation of a Part of the Jambi Trough, Sumatra, Indonesia

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The research involves mapping of subsurface at a scale of 1:25,000 the top of three geological formations in the Southern Part of Sumatra – the Airbenakat Formation, the top of the Talangakar Formation, and the top of structural basement in the Jambi Trough. Isopach maps of the formations will be constructed. These maps will form the basis of a basin analysis and hydrocarbon source rock assessment of the Jambi Trough using Basin Mod basin modeling software (Rockworks Software).

The studies utilize the L. Bogue Hunt Southeast Asia database housed in the Department of Geological Sciences at Ball State University. Seismic record sections, geophysical logs, cutting descriptions, and paleontological reports will provide basic geological data to enable mapping of the three horizons.

Although hydrocarbon accumulations are abundant in Central and Southern Sumatra, the nature of the source rocks is only partially understood. The proposed research will map the Airbenakat and Talangakar Formations while identifying the areas of thermally mature source rock is the main goal of the research. This study will identify characteristics which will enable the identification of thermally mature rocks in other regions of Sumatra.

The area of the project is located at the Southeastern part of Asia in Indonesia and mainly the Jambi trough located in Southern Sumatra. Generally, the geology and tectonics of this area (Sumatra) is controlled by the subduction of the Indian plate towards the east and beneath the Eurasia plate.